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GB 2310889 A DE 019640826 A1 US 5711274 A

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(54) Abstract Title

**Accumulator (common rail) fuel injection system for vehicle diesel engines**

(57) An accumulator fuel injection system comprises a common rail 3 pressurised by a high pressure pump 5 and connected to a number of fuel injection valves 1 via solenoid valves 1a. If, for example, the engine stalls or the vehicle driver switches the engine off after high load operation and immediately restarts it, releases the accelerator pedal or tries repeatedly to start the engine, the pressure in the common rail 3 may be greater than is appropriate for starting, leading to excessive injection quantity and combustion noise. The system of the invention responds to such conditions by draining the pressurised fuel from the common rail 3 through the injectors 1 thereby keeping the fuel pressure in the common rail at a level suitable for the following engine start up. For draining, the solenoid valve 1a may be opened for a period of time shorter than the normal time lag between opening the solenoid valve and the beginning of opening movement of the needle valve 37 to drain high pressure fuel from the controlled chamber 43 of the injector to the fuel tank 9.

FIG. 1

